AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of the claims in this application.

Listing of Claims:

1. (Previously Presented) A method for routing data packets in a wireless network, comprising:

estimating a link bandwidth of at least one network node;

calculating a connectivity metric based on the estimated link bandwidth, wherein the connectivity metric is defined as a ratio of a maximum link bandwidth to the estimated link bandwidth;

distributing information concerning the calculated connectivity metric using a routing protocol packet; and

using the calculated connectivity metric, determining a route having the maximum link bandwidth and a minimum traffic load.

2. (Original) A method as in claim 1, where estimating uses a model of a network medium access control MAC algorithm.

3. (Original) A method as in claim 1, where estimating uses a model of a Bluetooth network medium access control MAC algorithm.

4. (Previously Presented) A method for routing data packets in a wireless network, comprising:

estimating a link bandwidth of at least one network node;

calculating a connectivity metric based on the estimated link bandwidth;

distributing information concerning the calculated connectivity metric; and

using the calculated connectivity metric, determining a route having a maximum link bandwidth and a minimum traffic load, where said connectivity metric comprises a ratio of a maximum link bandwidth to the estimated link bandwidth, where the maximum link bandwidth is the link bandwidth between a Master node and a Slave node when there is only one Slave node connected to the Master node.

5. (Previously Presented) A method as in claim 4, where determining the route comprises:

calculating the connectivity metric of links along a plurality of routes;

determining a maximum connectivity metric value of each of the plurality of routes; and

selecting the route having the smallest maximum connectivity metric value.

6. (Currently Amended) A method for routing data packets in a wireless network, comprising:

estimating a link bandwidth of at least one network node;

calculating a connectivity metric based on the estimated link bandwidth;

distributing information concerning the calculated connectivity metric; and

using the calculated connectivity metric, determining a route having a maximum link bandwidth and a minimum traffic load, where estimating includes considering a node's status and the number of the node's Slaves, where considering a node's status considers whether a node is a Master node, a Slave node, or a Participant in Multiple Piconet (PMP) node, where a maximum link bandwidth B_0 is the link bandwidth between the Master and Slave nodes, when there is only

one Slave node present in a piconet, and where all piconets have the same value of B_0, where M_i is the number of Slave nodes in piconet *i* and M_j is the number of slave nodes in piconet *j*, and P_i is the number of piconets that a Participant in Multiple Piconet node connects to, where $Master_i$ is a Master node of piconet i, $Master_j$ is a Master node of piconet j, where M_k is the number of slave nodes in piconet *k*, where B is the bandwidth of all piconets of a route, PMP(S/S) is a Participant in Multiple Piconet node as a slave to both piconets it is attached, PMP(S/M_k) is a Participant in Multiple Piconet node as a slave to one piconet it is attached and as a master to another piconet it is attached, and where B_i is the link bandwidth of the Master-Slave link in piconet *i* and B_j is the link bandwidth of the Master-Slave link in piconet *j* and where the connectivity metric ~~B_o/B_i~~ is determined at least in accordance with:

~~Master →Slave: $\frac{B_i}{B_0} = \frac{1}{M_i}$~~

~~Slave →Master: $\frac{B_i}{B_0} = \frac{1}{M_i}$~~

~~$Master_i$ →PMP (S/S) →$Master_j$: $\frac{B}{B_0} = \frac{1}{P_i} MIN(\frac{B_i}{B_o}, \frac{B_j}{B_o}) = \frac{1}{P_i} MIN(\frac{1}{M_i}, \frac{1}{M_j})$,~~

~~and~~

~~$Master_j$ →PMP(S/M_k) →Slave: $\frac{B}{B_o} = MIN(\frac{1}{M_k + 1}, \frac{1}{M_i})$.~~

Master →Slave: $B_0 / B_i = M_i$

Slave →Master: $B_0 / B_i = M_i$

$Master_i$ → PMP (S/S) →$Master_j$: $B_0 / B = P_i * MAX (B_0 / B_i, B_0 / B_j) = P_j * MAX (M_i, M_j)$,

and

Master$_j$ →PMP(S/M$_k$) →Slave: $B_0 / B = MAX (M_{k+1}, M_j)$,

where B_0 / B_j and B_0 / B are connectivity metrics.

7. (Cancelled).

8. (Cancelled).

9. (Cancelled).

10. (Currently Amended) A method for routing data packets in a wireless network, comprising:

estimating a link bandwidth of at least one network node;

calculating a connectivity metric that is defined as a ratio of a maximum link bandwidth to an estimated link bandwidth;

distributing information concerning the calculated connectivity metric; and

using the calculated connectivity metric, determining a route having the maximum link bandwidth and a minimum traffic load, where distributing information concerning the calculated connectivity metric comprises inserting the value of the connectivity metric into a routing protocol packet in conjunction with the value of a hop number.

11. (Previously Presented) A computer program embodied on a computer readable medium and comprising computer program code segments for use by at least one data processor when implementing a routing protocol in a wireless network, comprising:

a first computer program code segment for estimating the link bandwidth of at least one network node;

a second computer program code segment for calculating a connectivity metric based on the estimated link bandwidth, wherein the connectivity metric is defined as a ratio of a maximum link bandwidth to the estimated link bandwidth;

a third computer program code segment that uses the calculated connectivity metric to determine a route having the maximum link bandwidth and a minimum traffic load; and

a further computer program code segment for sending information concerning the ~~a~~ calculated connectivity metric to at least one other network node using a routing protocol packet.

12. (Original) A computer program as in claim 11, where said first computer program code segment uses a model of a network media access control algorithm.

13. (Original) A computer program as in claim 11, where said first computer program code segment uses a model of a Bluetooth network media access control algorithm.

14. (Previously Amended) A computer program embodied on a computer readable medium and comprising computer program code segments for use by at least one data processor when implementing a routing protocol in a wireless network, comprising:

a first computer program code segment for estimating the link bandwidth of at least one network node;

a second computer program code segment for calculating a connectivity metric based on the estimated link bandwidth; and

a third computer program code segment that uses the calculated connectivity metric to determine a route having a maximum link bandwidth and a minimum traffic load, where said second computer program code segment calculates said connectivity metric to be a ratio of a maximum link bandwidth to the estimated link bandwidth, where the maximum link bandwidth is the link bandwidth between a Master node and a Slave node when there is only one Slave node in the network.

15. (Currently Amended) A computer program as in claim 14, where said third computer program code segment comprises computer program code for calculating the connectivity metric of links along a plurality of routes, for determining a maximum connectivity metric value of each of the plurality of routes and for selecting the route having the smallest maximum connectivity metric value.

16. (Cancelled).

17. (Cancelled).

18. (Currently Amended) A computer program embodied on a computer readable medium and comprising computer program code segments for use by at least one data processor when implementing a routing protocol in a wireless network, comprising:

a first computer program code segment for estimating the link bandwidth of at least one network node;

a second computer program code segment for calculating a connectivity metric based on the estimated link bandwidth; and

a third computer program code segment that uses the calculated connectivity metric to determine a route having a maximum link bandwidth and a minimum traffic load, where a maximum link bandwidth B_O is the link bandwidth between the Master and Slave nodes, when

there is only one Slave node present in a piconet, and where all piconets have the same value of $B_{0,}$ where M_i is the number of Slave nodes in piconet *i* and M_j is the number of slave nodes in piconet *j*, and P_i is the number of piconets that a Participant in Multiple Piconet PMP node connects to, where $Master_i$ is a Master node of piconet i, $Master_j$ is a Master node of piconet j, where M_k is the number of slave nodes in piconet *k*, where B is the bandwidth of all piconets of a route, PMP(S/S) is a Participant in Multiple Piconet node as a slave to both piconets it is attached, PMP(S/M_k) is a Participant in Multiple Piconet node as a slave to one piconet it is attached and as a master to another piconet it is attached, and where B_i is the link bandwidth of the Master-Slave link in piconet *i* and B_j is the link bandwidth of the Master-Slave link in piconet *j* and where the connectivity metric ~~B_o/B_i~~ is determined at least in accordance with:

~~Master →Slave:~~ $\frac{B_i}{B_0} = \frac{1}{M_i}$

~~Slave →Master:~~ $\frac{B_i}{B_0} = \frac{1}{M_i}$

~~$Master_i \rightarrow PMP\ (S/S) \rightarrow Master_j$:~~ $\frac{B}{B_0} = \frac{1}{P_i} MIN(\frac{B_i}{B_o}, \frac{B_j}{B_o}) = \frac{1}{P_i} MIN(\frac{1}{M_i}, \frac{1}{M_j}),$

~~and~~

~~$Master_j \rightarrow PMP(S/M_k) \rightarrow Slave$:~~ $\frac{B}{B_o} = MIN(\frac{1}{M_k + 1}, \frac{1}{M_i}).$

Master →Slave: $B_0 / B_i = M_j$

Slave →Master: $B_0 / B_i = M_j$

$Master_i \rightarrow PMP\ (S/S) \rightarrow Master_j$: $B_0 / B = P_i * MAX\ (B_0 / B_i, B_0 / B_j) = P_i * MAX\ (M_i, M_j),$

and

Master$_j$ →PMP(S/M$_k$) →Slave: $B_0 / B = MAX (M_{k+1}, M_i)$,

where B_0 / B_i and B_0 / B are connectivity metrics.

19. (Cancelled).

20. (Previously Presented) A computer program as in claim 11, where the value of the connectivity metric is inserted into a routing protocol packet in conjunction with the value of a hop number.

21. (Previously Presented) A computer program as in claim 11, further comprising a computer program code segment for receiving information concerning the ~~a~~ calculated connectivity metric from at least one other network node.

22. (Cancelled).

23. (Previously Presented) A mobile node comprising means for coupling to a wireless network, further comprising:

means for estimating the link bandwidth of at least one network node;

means for calculating a connectivity metric based on the estimated link bandwidth, wherein the connectivity metric is defined as a ratio of a maximum link bandwidth to the estimated link bandwidth;

means, responsive to the calculated connectivity metric, for determining a route having the ~~a~~ maximum link bandwidth and a minimum traffic load; and

means for sending information concerning the calculated connectivity metric to at least one other

network node using a routing protocol packet.

24. (Previously Presented) A mobile node as in claim 23, where said estimating means uses a model of a network media access control algorithm.

25. (Previously Presented) A mobile node as in claim 23, where said estimating means uses a model of a Bluetooth network media access control algorithm.

26. (Previously Presented) A mobile node as in claim 23, where the maximum link bandwidth is the link bandwidth between a Master node and a Slave node when there is only one Slave node in the network.

27. (Previously Presented) A digital data storage medium embodying a computer-executable program comprising operations of:

estimating a link bandwidth of at least one network node in a wireless multi-hop network using at least in part a consideration of a number of, and the role played by, other nodes that are coupled to the at least one node, where the role comprises one of a master (M), a slave (S), and a participant in multiple piconet (PMP);

calculating a connectivity metric based on the estimated link bandwidth;

distributing information concerning the calculated connectivity metric; and

using the calculated connectivity metric, determining a route in a load-balanced manner for a packet, where the connectivity metric comprises a ratio of a maximum link bandwidth to the estimated link bandwidth, where the maximum link bandwidth is the link bandwidth between a Master node and a Slave node when there is only one Slave node connected to the Master node.

28. (Cancelled).

29. (Cancelled).

30. (Cancelled).

31. (Cancelled).

32. (Previously Presented) A method as in claim 1, wherein the wireless network is comprised of a plurality of mobile nodes.

33. (Previously Presented) A computer program as in claim 11, wherein the at least one node is one of a plurality of mobile nodes in the wireless network.

34. (Currently Amended) A method as in claim 1, wherein the wireless network comprises an ~~comprises a~~ inter-piconet/ intra-piconet network of mobile nodes.

35. (Currently Amended) A computer program as in claim 11, wherein the wireless network comprises an ~~comprises a~~ inter-piconet/ intra-piconet network of mobile nodes.